

EXHIBIT B

KAISER TRENTWOOD SITE SCOPE OF WORK AND SCHEDULE REMEDIAL INVESTIGATION/FEASIBILITY STUDY(RI/FS)

This Scope of Work is to be implemented by Kaiser Aluminum and Chemical Corporation or their consultant through the development of planning documents and/or reports for completion of a site-wide Remedial Investigation/Feasibility Study (RI/FS) at the Kaiser Trentwood Site.

The purpose of this RI/FS is to collect, develop, and evaluate sufficient information at the Kaiser Trentwood Site to enable the selection of a cleanup action under WAC 173-340-360.

WAC 173-340-350 lists a description of the contents of the required work. This RI/FS must conform with the MTCA regulations, modified as appropriate to the site.

Kaiser Trentwood shall furnish all personnel, materials, and services necessary for, or incidental to, executing the Scope of Work for the Site.

BACKGROUND

GROUND WATER

Kaiser first submitted a draft Groundwater Remedial Investigation/Feasibility Study Report in September 1996. Revised versions were submitted in July 2001 and subsequently in July 2003. Written comments on the July 2003 draft Groundwater Remedial Investigation/Feasibility Study Report were sent to Kaiser in October 2004. Included in the comment letter was a request to address the results of the Hot Line and Remelt Areas (see Figure 1 for identified Site areas) PCB contamination study conducted by Kaiser in 2003 to 2004 in the Ground Water RI/FS.

In August 2004, Kaiser informed Ecology that additional wells would be installed at the Site to further define potential point sources of contamination to groundwater and to support Kaiser plans for facility upgrades in the Remelt Area and the Cold Mill Area.

The results of the 2003 to 2005 PCB investigations in the hot line and remelt or casting areas confirm the presence of a PCB plume, the extent of which has not been completely determined. Additional groundwater studies are therefore needed to determine the extent of this PCB contamination. Kaiser has also installed monitoring wells in the Cold Mill

area; the extent of contamination in this area needs to be determined through additional investigations.

Recent site investigations showed releases from transfer lines connecting the Oil Reclamation Building to the Wastewater Treatment System area. A release from an underground storage tank for waste oil in the truck shop area had been discovered in April 2005. Additional soil and groundwater investigations are also warranted for these areas.

SOILS

Kaiser had conducted several removal actions on releases and spills that occurred at the Site. Removal actions were reported to Ecology in the form of independent reports. Based on Ecology's review of the independent and spill reports that are in the agency files, the following areas that would require additional investigations to complete the RI/FS are the following:

- Oil House Area
- Wastewater Area
- Remelt(Casting)/Hot Line Area
- Oil Reclamation Building
- G3 Transfer Lines Area/Other Transfer Lines Areas
- Cold Mill/Finishing Area
- Truck Shop Area

Additional soil investigations in these areas may be necessary to assess the following:

- Horizontal and vertical extent of soil contamination;
- Potential sources to groundwater contamination;
- Amount/volume of contamination in the vadose zone;
- Extent of smear zones; and,
- Presence or absence of soil gas as a result of petroleum fuel releases on site.

TASK I. PHASE I PROJECT PLANNING DOCUMENTS

A. Phase I RI Work Plan

The Phase I RI is primarily intended to complete groundwater investigations at the Site. Soil data collected during Phase I investigations will supplement existing soil data.

The Phase I RI Work Plan shall, at a minimum, include the following:

1. Introduction

The introduction includes a general explanation of the goals, and expected results of the investigations.

2. Data Summary, Evaluation, and Completeness Evaluation

- a. Summary of the July 2003 Draft Groundwater RI/FS.
- b. Summary of Supplemental Investigation and Remedial Activities Since 2003
- c. Proposed Investigations to Fill Data Gaps. At a minimum, Phase I investigations shall include the components described below in each specified area at the Site (please see Figure 1). Installation of monitoring wells shall be in compliance with Chapter 173-160 WAC. Groundwater sampling and analysis from all new monitoring wells and other pertinent monitoring wells for each area must be conducted for at least four quarters (inclusive of previous sampling periods unless additional sampling parameters are required). Groundwater and soil samples shall be analyzed for the following constituents (unless noted otherwise in the final approved Work Plan): Total Petroleum Hydrocarbons (TPH), Polychlorinated Biphenyls (PCBs), Volatile Organic Carbons (VOCs), Semivolatile Organic Carbons (sVOCs), and total metals. Additional analyses germane to specific areas or operations at the Site may be identified during the course of the Phase I investigations.

i. Cold Mill Area

- Excavation of accessible historical transfer lines leading from the Cold Mill to the Oil House using a backhoe to observe soil conditions adjacent to the lines to identify release points. Collection of soil samples, if necessary.
- Installation of at least one monitoring well at an identified release point(shown as CM-MW-9S at its tentative location in Figure 1). Sufficient soil samples must be taken during well installation from the surface to the water table in appropriate intervals to provide additional information on the nature, extent, and limits of TPH, PCBs, VOCs, sVOCs, and total metals in soils.
- Groundwater sampling and analysis of all cold mill wells, including CM-MW-9S, for at least four quarters.
- Installation of additional soil borings/monitoring wells, if necessary, based on initial soil and ground water results from CM-MW-9S.
- Surface soil sampling in former transformer yard area. Additional sampling or borings may be necessary, based on initial sampling results.

ii. Remelt (Casting)/Hot Line Areas

- Installation of at least one monitoring well upgradient of RM-MW-9S to determine the upgradient extent of the groundwater PCB plume. Additional monitoring wells may be proposed based on initial soil and groundwater results from RM-MW-9S.
- Installation of deep monitoring wells MW-RM-7D, RM-MW-6D in the Remelt Area to provide soil and groundwater data in the vicinity and downgradient of a reported former wash pad.
- Installation of HL-MW-23DD (about 210 feet below ground surface) to determine the vertical extent of the PCB plume in the vicinity.
- Installation of three shallow wells , HL-MW-24S through HL-MW-26S, within the the West Landfill area. Additional wells may be installed based on soil and groundwater results from the installation of these three wells, if necessary.
- Installation of MW-27S, between MW-17S and MW-25S to determine downgradient extent of PCB contamination. Additional wells may be installed based on soil and groundwater results from MW-27S.
- Collecting soil samples during well installation from the surface to the water table in appropriate intervals to provide additional information on the nature, extent, and limits of TPH, PCBs, VOCs, sVOCs, and total metals in soils.
- Sampling and analysis of groundwater from all Hot Line Area/Remelt Area wells for at least four quarters.
- Collection of additional PCB wipes or core samples from the induction furnace basement, if necessary.

iii. G3 Oil Reclamation to Wastewater Treatment Transfer Lines and Other Transfer Lines Areas

- Completion of investigation of known and suspected release points, if necessary.
- Collection of surface soil samples at all release points.
- Installation of soil borings and/or monitoring wells, if necessary, to determine the vertical extent of contamination.

- Collection and analysis of soil samples from soil borings and/or monitoring wells from the surface to the water table using appropriate intervals.
- Groundwater monitoring for at least four quarters.

iv. 1980 Fuel Oil Spill Area

- Installation of one monitoring well (FO-MW-1) at the location of release from a former pipeline.
- Collection and analysis of soil samples to the water table.
- Collection of at least four quarter of groundwater samples.

v. Oil Reclamation Building

- Use a series of deep backhoe pits in the east and west man-made depressions to observe soil conditions and to collect sufficient samples to define the extent of contamination.
- Installation of soil borings/monitoring wells, if necessary, to determine contamination to the water table.
- Soil sampling to the water table.
- At least four quarters of ground water monitoring on wells HL-MW-6A, HL-MW-20S, and HL-MW-19S.
- Soil gas investigations in areas with high TPH concentrations.

vi. Former Discharge Ravines West and South

- Excavation of two lateral trenches, perpendicular to and across the west and south ravines, to allow for shallow soil samples to be collected.
- Based on results of shallow soil samples, advance two soil borings in each ravine (shown as DRW-SB1 and SB2 for the West Ravine, DRS-SB1 and -SB2 for the South in Figure 1) to the groundwater table to determine vertical extent of contamination. Soil borings may be converted to monitoring wells for groundwater sampling, if necessary.

- Additional trenches/borings/monitoring wells may be necessary, particularly along trench axes, based on initial findings. Further investigations/sampling may include ravine discharge areas.

vii. Truck Shop Area

- Additional soil testing from soil borings, if necessary.
 - Groundwater monitoring from the newly-installed monitoring wells in this area for at least four quarters.
 - Soil gas investigation in area of release.
3. Groundwater monitoring of all Operation, Performance, and Protection monitoring wells will be conducted in accordance with the 2004 Updated Groundwater Monitoring Plan or as amended in the Sampling and Analysis Plan under Task I.B.
 4. Continued implementation of the current interim remedial actions at the Site.
 5. Existing soil piles on Site, generated during earlier investigations, will be identified and located on a Site map and evaluated for volume and contaminant concentrations.

6. Phase I Implementation Schedule

Deliverables: Phase I RI Work Plan – Draft
Phase I RI Work Plan - Final

B. Sampling and Analysis Plan

A Sampling and Analysis Plan (SAP) for use during all groundwater and soil characterization studies shall be prepared. The SAP may be combined with the Phase I RI Work Plan if more efficient. The SAP shall be prepared in accordance with the Model Toxics Control Act (MTCA), Chapter 70.105D, the MTCA Cleanup Regulation, Chapter 173-340 WAC, and appropriate federal guidance. The required contents of a Sampling and Analysis Plan are listed under WAC 173-340-820.

Deliverables : Sampling and Analysis Plan – Draft
Sampling and Analysis Plan – Final

C. Health and Safety Plan

A Health and Safety Plan shall be prepared to address RI/FS activities as required under WAC 173-340-810(2).

Deliverables: Health and Safety Plan

TASK II. FIELD INVESTIGATIONS

Field investigations, according to the Work Plan in Task I, shall be conducted. All sampling and analysis shall be conducted in accordance with the Sampling and Analysis Plan.

Deliverables: Progress Reports

TASK III. PHASE I TECHNICAL MEMORANDUM

This Technical Memorandum is a data report that shall be prepared to include all soils and first quarter groundwater results collected during the Phase I investigations. The second through fourth quarters of groundwater shall be submitted through progress reports and in the RI Report.

Deliverable: Phase I Technical Memorandum

TASK IV. INTERIM ACTIONS (if necessary)

Based on Phase I data, interim actions at the Site may be conducted under WAC 173-340-430, if appropriate and warranted. An Interim Action Work Plan(s) shall be submitted for Ecology's review and approval. An Interim Action Report(s) shall be prepared and submitted to Ecology after completion of the interim actions.

Deliverables: Interim Action Work Plan(s) - Draft
Interim Action Work Plan(s) – Final
Interim Action Report(s)

TASK V. PHASE II RI WORK PLAN

The purpose of the Phase II RI is primarily to complete soil evaluation and assessment and to identify soil data gaps to complete the RI. Additional groundwater sampling may be conducted, if necessary.

The Phase II RI Work Plan shall, at a minimum, include the following:

1. Introduction

A general explanation of the goals and expected results of the investigations shall be included.

2. Evaluation and Assessment of the Completeness of Existing Soil Data

Appendix A is a preliminary summary of the reports of removal actions, spill and/or release reports that were evaluated by Ecology prior to preparation of this Scope of Work. Available reports and background information associated with the areas listed in Appendix A and all other data available to Kaiser should be used to assess soil contamination. All existing soils data (including Phase I RI soils data) from soil borings, excavation verification samples, monitoring well installation, soils investigations shall be compiled and summarized. The current understanding of the existing information on the environmental condition of the soils on site shall be described. Additional data needs shall be identified such that the RI/FS shall be completed.

3. Additional Soil RI Investigations

Additional field investigations to be performed during the Phase II RI shall be presented. At a minimum, soil contamination and facility-oriented RI tasks shall include the following to complete the RI/FS investigations:

a. Site Physical Studies

- i. All drainage features present on the property, including, sumps, dry wells, manholes, subsurface drains, and associated piping shall be investigated and presented to establish discharge points. Locations of drainage features shall be documented on a map or maps.
- ii. Information shall be presented or collected to identify, enumerate, and characterize human populations potentially exposed to contaminants at the Site or released from the Site.
- iii. Biological and ecological information shall be collected in accordance with MTCA. This information shall include general information of the flora and fauna associated in and around the site with particular emphasis placed on identifying sensitive environments, especially with regard to endangered species and their habitats and those consumed by humans or found in human food chains.
- iv. Historical-to-present Site air photos shall be included providing a developmental time-line of the facility.

b. Soil Investigation

i. Soil Chemistry

Based on Task 2, excavations and/or soil borings will be advanced in the following areas to evaluate the nature, extent, and limit of

TPH, PCBs, VOCs, sVOCs, PAHs, and total metals contamination:

- Oil House Area
- Wastewater Area
- Cold Mill/Finishing Area
- Remelt(Casting)/Hot Line Area
- Oil Reclamation Building Area
- G3 Transfer Lines/Other Transfer Lines Areas
- Truck Shop Area
- Other areas as identified from Phase I results.

ii. Soil Physical Properties

Sufficient samples shall be taken during soil boring installation to permit vadose zone transport modeling and geotechnical evaluations. As approved in the work plan, samples from each area shall be analyzed for grain size analysis, cation exchange capacity, moisture content, Atterburg Limits, total organic carbon, Modified Proctor, and Permeability.

iii. Soil Gas Investigation

Additional soil gas investigations shall be conducted in representative areas where high TPH concentrations have been observed.

iv. Drainage/Lagoon Investigation. [This investigation may be conducted as part of the requirements of Ecology's Water Quality Program Enforcement Order. Additional tasks over and beyond the requirements of the Enforcement Order shall be performed under this section.]

Water and sediment samples shall be collected along drain lines, manholes and sumps to evaluate migratory routes of contamination.

Water, suspended, and sludge samples shall be collected from the lagoon to determine if the lagoon is acting as a repository of contamination from drainage systems.

4. Treatability Studies

Conduct laboratory and/or bench scale studies, if necessary, to determine the applicability of remedial alternatives to Site conditions.

5. Phase II RI Implementation Schedule

6. Amendments to Sampling and Analysis Plan

Deliverables: Phase II RI Work Plan – Draft
Phase II RI Work Plan – Final

TASK VI. PHASE II INVESTIGATIONS

Deliverables: Progress Reports
Treatability Study Reports

TASK VII. REMEDIAL INVESTIGATION REPORT

The Remedial Investigation Report shall be prepared in accordance with WAC 173-340-350. The current understanding and conceptual site model shall be presented based on all existing soil and groundwater data including Phase I and Phase II RI results.

Deliverables: Remedial Investigation Report – Draft
Remedial Investigation Report- Draft Final

TASK VIII. FEASIBILITY STUDY TECHNICAL MEMORANDUM

A Feasibility Study Technical Memorandum shall be prepared that will include a preliminary cleanup level analysis, an ARAR analysis, the development of remedial alternatives, and a preliminary evaluation of alternatives under MTCA for Ecology's review.

Deliverable: Feasibility Study Technical Memorandum –Draft
Feasibility Study Technical Memorandum - Final

TASK IX. FEASIBILITY STUDY REPORT

A Feasibility Study Report shall include:

- Development of cleanup levels.
- Development of remedial alternatives.
- Evaluation of alternatives based on the requirements and criteria specified under WAC 173-340-360.

Deliverables: Feasibility Study Report – Draft
Feasibility Study Report – Draft Final

THE DRAFT FINAL REMEDIAL INVESTIGATION REPORT AND THE FEASIBILITY STUDY REPORT WILL BE MADE AVAILABLE FOR PUBLIC COMMENT. A FINAL REMEDIAL INVESTIGATION REPORT AND A FINAL FEASIBILITY STUDY REPORT WILL BE ISSUED AFTER INCORPORATING COMMENTS FROM THE PUBLIC.